Design A Water Tower

Your challenge is to build a water tower using the fewest building materials that will safely support the most water (load) for a community. Water towers provide storage, constant water pressure and an emergency water supply.

Will You be Hired for the Job? Tally your points:

_____ How long the tower can support a load (ball) = 10 pts/min x 5 min.
_____ The amount of materials used—more points for fewer materials!
  • 50 points < 10 marshmallows & 20 spaghetti noodles
  • 40 points < 20 marshmallows & 30 spaghetti noodles
  • 30 points < 30 marshmallows & 40 spaghetti noodles
_____ How much load can be supported: 10 pts/ping pong ball; 25 pts/golf ball.
_____ TOTAL The engineering team with the most points wins!

Activity Materials Needed:

- 1 PING PONG BALL (LOAD = WATER)
- 1 GOLF BALL
- PAPER & PENCIL FOR PLANNING
- 1 PACKAGE SPAGHETTI OR TOOTHPICKS (50 SPAGHETTI STRANDS PER TEAM)
- 1 PACKAGE OF SMALL MARSHMALLOWS (30 MARSHMALLOWS PER TEAM)
- CLOCK OR STOPWATCH

Water Facts: One billion people (1 in 10) lack access to safe water, 2.4 billion people (1 in 3), lack access to a toilet. Can you help?

Developed by the Michigan Tech Center for Science & Environmental Outreach https://blogs.mtu.edu/cseo/
Design A Water Tower ~ Tally your points below: 

Name _____________

_____ How long the tower can support a load (ball) = 10 points per minute; up to 5 minutes.

_____ The amount of materials used—more points for fewer materials!
- 50 points < 10 marshmallows & 20 spaghetti noodles
- 40 points < 20 marshmallows & 30 spaghetti noodles
- 30 points < 30 marshmallows & 50 spaghetti noodles

_____ How much load can be supported: 10 points ping pong ball; 25 points golf ball.

____ TOTAL   The engineering team with the most points wins!

Water Facts: 663 million people - 1 in 10 - lack access to safe water. 2.4 billion people, 1 in 3, lack access to a toilet. Twice the population of the U.S. lives without access to safe water. More people have a mobile phone than a toilet! (http://water.org/)